of transaminases in blood serum and presence of anti HCV and HCV RNA in the blood.
The positive response to alpha-2a interferon therapy was found in 20 patients. Of them GNB3 gene was determined in 3 (15%) patients. In the patients resistant to therapy or with disease recurrence after antiviral therapy GNB3 C825T allele was revealed in 12 (60%) patients.
According to our investigations we found increase in number of GNB3 C825T carriers among the patients without response to the antiviral treatment.

### PP-140 Frequency of hepatitis C virus infection in Pakistani patients with type 2 diabetes mellitus

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**Background:** There is an increasing evidence of a possible epidemiological link between HCV infection and diabetes. It is not known whether such a relationship exists in patients here as well. We, therefore, investigated the prevalence of HCV infection in diabetic patients in order to elucidate the presence of a possible association between the two endemics in this region. We wanted to compare the prevalence of HCV infection in diabetic patients with a sample form general population.
**Methods:** This cross-sectional study was carried out on 550 diabetes patients seen at diabetes clinic at Nishtar Hospital, Multan during winter 2008. Patients' diabetic status and HCV antibody presence were noted. The control group comprised of 550 volunteer blood donors attending the blood bank of Nishtar Hospital, Multan during the period of study. Informed consent was taken before taking the data. Data Analysis was done using SPSS v16.
**Results:** The mean age of patients was 47.58 years while the mean duration of diabetes was 7.02 years. The patients were predominantly female (55.27%). Out of 550 patients whose data was gathered, 86 patients were tested positive for HCV antibody presence as compared to control in whom 45 people were infected with hepatitis C virus infection out of 550 (OR = 4.60, 95% CI = 3.22–6.57, $p < 0.01$). No significant association was found between the duration of diabetes and presence of HCV infection.
**Conclusion:** Hepatitis C virus infection is highly prevalent among type 2 diabetic patients as compared to the control group in this region. The nature of association and the effects of other confounding factors need to be seen. It remains to be elucidated how this co morbidity effects progression of liver disease and diabetes.

### PP-141 Prevalence of gallstones among persons with chronic liver disease in Pakistan

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**Background:** We determined the association between Chronic liver disease and Gallstones in a representative sample of adults in Pakistan.
**Methods:** We included all the consecutive adults with HCV antibody positive and HBsAg positive, who visited our hepatology clinic from Jan 2009 to March 2009. We noted the status and duration of disease, weight, BMI, associated DM (Diabetes Mellitus), smoking, ethnicity and number of children in case of women.
**Result:** There were 344 participants, out of them 289 (84%) were HCV antibody positive and 55 (16%) were HBsAg positive. Overall prevalence of gallstones was 14.8%. 84.3% of gallstones were among HCV antibody positive and 15.7% among HBsAg positive individuals. Gallstones prevalence increased with age with a predominance in patients of more than 40 years of age (P value = 0.003). The frequency of gallstones increased with the duration of liver disease (P value = 0.05), peak was seen in patients who had chronic liver disease for 2–4 years.
**Conclusion:** Chronic liver disease was strongly associated with gallstones among men but not in women in our study in Pakistan and gallstone was more common in adults with increasing age and severity of liver disease.

### PP-142 Clinical relevance of serum HCV core antigen level and antiviral therapy response

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**Aim:** To evaluate the significance of HCV core antigen detection in the determination of the efficacy of HCV antiviral therapy in China.
**Methods:** HCV core antigen was measured in sera of 35 chronic hepatitis C patients. Concentrations of HCV core antigen and HCV RNA were analyzed at 4 time points before, during and after the end of antiviral therapy.
**Results:** This study showed that the HCV core antigen and HCV RNA concentrations in 35 HCV patients were significantly related. Decrease of HCV core antigen and HCV RNA concentrations at 4th wk, 24th wk, 48th wk were observed during antiviral therapy. HCV core antigen at week 24 of therapy was significantly lower than at week 4 (P = 0.000). In contrast, no decrease was observed in HCV RNA concentrations in the same time (P = 0.303). HCV core antigen testing may be advantageous in some cases, especially the negativity of HCV core antigen at week 4 for prediction of non-response is reliable.
**Conclusion:** HCV core antigen represents a stable and sensitive marker of viral replication, can be used to monitor the clinical efficacy of HCV antiviral therapy.
Author contribution: Wen-Juan Wu and Yun-Zhi Zhang contributed equally to this work.

### PP-143 Introduction of HCV quantification as a diagnostic tool in Mongolia: its significance and lessons learned

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**Background:** 17% of Mongolian population is infected with HCV, which makes the country one of the top HCV infected countries in the world. Though HCV quantification method was developed almost a decade ago it was only in 2009, when it was first introduced in Mongolia.
**Method:** Total of HCV 212 patients were enrolled in the study, all of whom had HCV quantification at Happy Veritas clinical laboratory. HCV quantification (Taqman real-time PCR method) was performed by ABI7000. Applied Bio-systems, USA. Commercially available HCV quantification kit was used in the study. Anti-HCV was purchased from ACON laboratories, USA.
**Result:** Out of 212 patients who had HCV quantified only 35 were also checked for HCV antibody. Patients were divided in high viral load >2 million HCV copies/ml, and low-intermediate <2 million HCV copies/ml. we checked for liver function tests in both groups. Only 3.1% of patients in the high group had normal liver enzymes (AST < 30 IU), while 47% had normal liver enzymes in low-intermediate group. Average ALT 45 IU in low-intermediate group. Mean

platelet number was 198000 in high, and 213000 in low-intermediate group. Out of 35 patients who were checked for both HCV RNA and Anti-HCV 68.5% (n = 24) positive for both Anti-HCV and HCV RNA, while 31.5% were positive for anti-HCV but HCV RNA negative. These patients are believed to be immune to HCV.
**Conclusion:** With the introduction of HCV quantification method as a diagnostic tool, it became possible to distinguish truly HCV immune patients who were considered as HCV infected before. We noticed positive correlation HCV viral load with liver enzymes. The method allows treatment monitoring for the first time in Mongolia.

**PP-144** **Influence of predictor variables on side effects of the treatment with PEG Interferon Alfa 2a plus ribavirin in chronic hepatitis C**

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**Aim:** Prediction of main side effects of chronic hepatitis C treatment with Peg-IFN $\alpha$2a and ribavirin.
**Methods:** We evaluated in 55 patients treated with Peg-IFN $\alpha$-2a plus ribavirin numerous predictors influence on main side effects (dichotomous dependent variable) on different date of therapy: flu-like syndrome, leucopenia, thrombocytopenia, weigh lose, fatigue, depression, insomnia, artralgia, myalgia, anorexia, nausea, anemia, headache, alopecia, pruritus and rash. Statistic analyses was done by SPSS 11.0 with binary logistic regression. Eleven independent variables, such as age, gender, body mass index (BMI), disease limitation, pretreatment with standard or Peg-IFN, presence of antibodies to HBV, alcohol abuse, drug abuse, genotype (1b, 1a, 2 and 3), level of ferritin (FERR), viral load (VL), were coding as dichotomous or categorical.
**Results:** Already on first month of the treatment probability of myalgia calculated by formula 1:

$$\log\frac{p}{1-p} = 1.33 - 1.34\,\mathrm{HBV}(1) - 3.32\,\text{disease limitation}(1) - 2.64\,\text{disease limitation}(2), \quad (1)$$

where HBV(1) – HBcAb; disease limitation(1) – long-standing of HCV-infection up to 5 years; disease limitation(2) – 5–10 years. Probability of flu-like syndrome on first month of therapy is calculated by formula 2:

$$\log\frac{p}{1-p} = -2.54 + 2.69\,\text{genotype 1a} + 8.07\,\text{genotype 2} + 2.38\,\text{genotype 3} + 2.67\,\text{high VL} - 1.94\,\text{alcohol abuse}. \quad (2)$$

Risk factors were genotype 1a (OR = 14.7) and highVL (OR = 1.45).
Significant model was received for IVDU (p = 0.005), alcohol abuse, HBV infection, high FERR and VL influence on weight loss during last months of therapy (formula 3):

$$\log\frac{p}{1-p} = 1.73 - 4.36\,\mathrm{IVDU} - 1.78\,\text{high FERR} - 0.038\,\text{high VL} - 0.096\,\text{alcohol abuse} + 1.55\,\mathrm{HBcAb}. \quad (3)$$

**Conclusions:** Development of side effects of the treatment with pegylated IFN-alfa-2a and ribavirin depends on some predictor factors.

**PP-145** **Discordant results of HCV genotyping in peripheral blood mononuclear cells from patient with chronic hepatitis C: case report**

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**Introduction:** There is a growing evidence of intergenotypic recombination in HCV. In this paper we report a patient infected by HCV 1b and, probably, recombinant 2/1b that is detected in peripheral blood mononuclear cells (PBMC).
**Case description:** Patient S., male, 31 years old admitted in January 2009. HCV viral load in serum before treatment – 9,630,000 IU/ml. HCV genotyping by sequencing 5′UTR and NS5A. According to phylogenetic analysis NS5A belongs to 1b (sera and PMBC), 5′UTR from serum – to 1b, from PBMC – to genotype 2. Due to discordant results recombinant 2/1b in PBMC can be suspected. NS5A interferon sensitivity determining region (ISDR) contains mutation R2218H. Laboratory: ALT 71 U/l, AST 62 U/l, GGT 36 U/l. Liver biopsy: HAI 8, fibrosis 1. Immunohistochemically HCV NS3 was detected in lobules and tracts. Elevated CD16 and CD20 was found in lymphoid follicules of portal tracts. Patient received treatment with pegintron (1.5 mg/kg BW) plus ribavirin (1000 mg/day) for 48 weeks. Virological and biochemical response were achieved on 12 wk and remained until the end of treatment and during follow-up. Liver biopsy after treatment: HAI 3, fibrosis 0. Immunohistochemically NS3 was still detected in lobules and tracts, CD16 and CD20 decreased in portal tracts.